

ECA IET SIG No: 6

Reported Period: 2017-2018

Report Date: June 16<sup>th</sup> 2018

Reported by: Prof John R Helliwell DSc, IET Sig 6 Secretary on behalf of the Sig 6 Members and the Sig 6 Chair Prof. Dr. Dr. h.c. Ullrich Pietsch

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## 1. Introduction.

ECA IET Sig6 Chair *Ullrich Pietsch* and ECA IET Sig6 Secretary *John R Helliwell* have continued their roles. Their work has included submission of the suggestions from the SIG to the Programme Chair of ECM31 Oviedo. Also two workshops have been organised at ECM31, one with the Chairman (<http://ecm31.ecanews.org/en/progress-instrumentation-x-ray-diffraction-and-cryoem.php>) and one with the Secretary (<http://ecm31.ecanews.org/en/neutron-macromolecular-crystallography.php>).

## 2. SIG web site:

SIG 6's website is here:- <http://ecanews.org/mwp/groups/sig-06-instrumentation-and-experimental-techniques/>

The 2016 to 2017 report for example is here:

[http://ecanews.org/mwp/wp-content/uploads/2018/02/SIG6\\_annual-report\\_2016-2017.pdf](http://ecanews.org/mwp/wp-content/uploads/2018/02/SIG6_annual-report_2016-2017.pdf)

## 3. Number of ECA individual members registered with the SIG

SIG 6 membership was 87 (checked on June 16th 2018).

## 4. Existence of a SIG mailing list?

Yes; the detailed instructions for using the email list can be found at the new ECA website and which are:-

## Mailing List

Scientists which to participate to the SIG6 discussions should **join the group's mailing list:**

- mails can be sent to [eca-sig6@listes.grenoble.cnrs.fr](mailto:eca-sig6@listes.grenoble.cnrs.fr)
- the archives can be consulted at <https://listes.grenoble.cnrs.fr/sympa/arc/eca-sig6> (subscribers only, and you need to create an account by clicking on the “first login ?” link at the top left)
- to **subscribe**, go to: <https://listes.grenoble.cnrs.fr/sympa/subscribe/eca-sig6>
- to **unsubscribe**, go to: <https://listes.grenoble.cnrs.fr/sympa/sigrequest/eca-sig6>

The mailing list engine is a SYMPA server, user information is available from: <https://listes.grenoble.cnrs.fr/sympa/help/user>

The list of commands you can send are listed in [https://listes.grenoble.cnrs.fr/sympa/help/mail\\_commands](https://listes.grenoble.cnrs.fr/sympa/help/mail_commands) (the list name is “era-sig6”)

**5. Approximate total number of researchers involved in the SIG (please indicate the basis for the estimate)** 87 based on our registered list (checked on June 16th 2017).

## 6. List of MS proposed by the SIG for ECM31 Oviedo

Our Sig6 microsymbosia proposals for the ECM31 Programme that we made early April 2017 are listed below:-

1. X-ray diffraction on the  $\mu$ s to ps time scale
2. The use of ultra-hard x-rays for investigation of technical materials
3. New detectors for high energy x-ray applications (together with other SIGs)
4. The use of neutron scattering in nanoscience
5. Application of X-ray imaging techniques
6. Crystallisation for small and large molecules (together with other SIGs)

## 7. Prizes awarded/sponsored/coordinated/received by Sig6 Members

At ECM30 Basle the Sig6 poster prize, winner details and our judging panel are summarised below:-

SIG 6 Jacek Grochowski Poster Prize 100 Euro	Anna Polyakova (EMBL-Hamburg)	MS3-P14: Tailor-made beams for macromolecular crystals on P14 at PETRAIII	Ulrich Pietsch (Chair) Vincent Favre-Nicolin John R Helliwell
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## **8. Past Activities other than Microsymposia at ECM**

8.1 *John R Helliwell* is Chair of the IUCr Committee on Data, details of which can be found

here:- <https://www.iucr.org/iucr/governance/advisory-committees/committee-on-data>

Naomi Chayen

Is a Management Committee Member of a European Commission COST Action on crystallization.

An Advisor for Kudos.

Taught at the FEBS INSTRUCT Practical Crystallization Course. Novo Hrad, Czech Republic.

Gave a plenary talk at the Italian crystallography Association.

Chaired the crystallization session at the British Crystallography meeting in Warwick.

Ullrich Pietsch is chair of the European Synchrotron User Organization (ESUO) representing about 30.000 European users of synchrotron sources and Free Electron Lasers. (<http://www.wayforlight.eu/eng/esuo.aspx>, [www.ESUO.org](http://www.ESUO.org)).

## **8.X Summary of Outreach activities**

As a contribution to this John R Helliwell published several book reviews:- in Journal of Applied Crystallography (careers in science) and Journal of Synchrotron Radiation (synchrotron radiation physics) in the last year.

A very distinctive contribution is the realisation of the web site "Krystallopolis.com" <http://www.krystallopolis.com/le-laboratoire/> which illustrates that Crystallography is the science that gives us clear views of the atomic and molecular structures inside matter - whether biological or mineral. It gives us, in other words, the keys we need to understand how the physical world works. Why, for example, can some materials conduct electricity whilst others provide good insulation? Why are some of them hard and others soft? How does an antibiotic work? etc. Crystallography provides the answers, by showing how materials are organised at the atomic level.

The 2018 HERCULES (Director: Vincent FAVRE-NICOLIN) details are here:- <http://hercules-school.eu/55-organizing-committee.htm> In addition to lectures and practicals in Grenoble (Institut Laue Langevin, ESRF and local laboratories), groups were also sent to Paris-Saclay (Soleil & the LLB, France), Hamburg (European XFEL and DESY, Germany), Villigen (Paul Scherrer Institute, Switzerland), and Trieste (Elettra and the FERMI laser), i.e. including all European XFEL sites for the first time.

Naomi Chayen presented at the Imperial Festival 2017 and at New Scientist Live 2017

## **9. Future/Programmed Activities.**

Sig 6 is assembling microsymbiosia and keynote ideas for ECM32 in Vienna. Sig6 will be represented at the ECM32 Programme Committee by the Sig 6 Chair Prof. Dr. Dr. h.c. Ullrich Pietsch.

## **10. Other contributions to crystallography**

John R Helliwell is a Programme Committee Member for the World Congress of Crystallography to be held in Prague in 2020. He is also the IUCr Representative to the International Council of Science Committee on Data ('CODATA'). He is Chair of the **IUCr/Oxford University Press (OUP) Book Series Selection Committee**, details of which can be found here:- <https://www.iucr.org/iucr/governance/advisory-committees/book-series> .

Naomi Chayen is a Programme Committee Member for the International Conference for Crystallization of Biological Macromolecules (ICCBM) to take place in Shanghai.

## **11. Other matters.**

None to report.

## **12. Brief annual activity report**

Our core function is to have assisted with the ECM next meeting program, ECM32.

We have been active in outreach.

The above details also show a real willingness to integrate and collaborate with IUCr on the matters of policy re crystallographic data and which includes:- encouraging the availability of our raw diffraction data for all experimental methods of crystallography in addition to our

processed diffraction data (such as structure factors or scattering curves/profiles) and our derived atomic and molecular data.

**13. List SIG officers, name and e-mail, and specify their main function in the SIG:**

*Chair Prof. Dr. Dr. h.c. Ullrich Pietsch* pietsch@physik.uni-siegen.de

*Secretary Prof John R Helliwell DSc* [John.helliwell@manchester.ac.uk](mailto:John.helliwell@manchester.ac.uk) and *Vice Chair Prof Naomi Chayen* n.chayen@imperial.ac.uk

*Immediate past Chair Dr Thomas Tschentscher* thomas.tschentscher@xfel.eu

*Past Chairs: Dr Jean-Louis Hodeau* jean-louis.hodeau@grenoble.cnrs.fr and *Prof John R Helliwell DSc*.

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**Supplementary Materials.**

None.